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JC522 U.S. PTO

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Patent Application of: Russell D. Slifer.

**PERSONALIZED WIRELESS VIDEO GAME SYSTEM**



**BOX PATENT APPLICATIONS**

Assistant Commissioner for Patents

Washington, D.C. 20231

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 4 Sheet(s) of drawing(s).  
 A signed Declaration (3 pgs).  
 A verified statement to establish small entity status under 37 C.F.R. 1.9 and 1.27 (1 page).  
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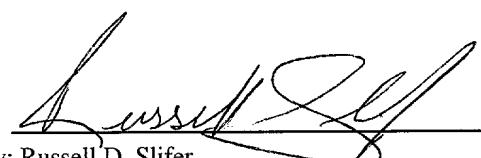
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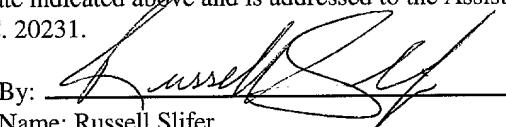


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By:   
Name: Russell Slifer

(NEW FILING)

INDEPENDENT INVENTOR

VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY  
STATUS (37 C.F.R. 1.9(f) AND 1.27(b)) - INDEPENDENT INVENTOR

As a below name inventor, I hereby declare that I qualify as an independent inventor as defined in 37 C.F.R. 1.9(c) for purposes of paying reduced fees under Section 41(a) and (b) of Title 35, United States Code, to the Patent and Trademark Office with regard to the invention entitled PERSONALIZED WIRELESS VIDEO GAME SYSTEM described in application serial no. \_\_\_\_\_ filed Even date here with

I have not assigned, granted, conveyed or licensed and am under no obligation under contract or law to assign, grant, convey or license, any rights in the invention to any person who could not be classified as an independent inventor under 37 C.F.R. 1.9(c) if that person has made the invention, or to any concern which would not qualify as a small business concern under 37 C.F.R. 1.9(d) or a nonprofit organization under 37 C.F.R. 1.9(e).

Each person, concern or organization to which I have assigned, granted, conveyed, or licensed or am under obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

no such person, concern, or organization

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 C.F.R. 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereof, or any patent to which this verified statement is directed.

Russell D. Slifer



Signature of Inventor

11/14/97

Date

## PERSONALIZED WIRELESS VIDEO GAME SYSTEM

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### Technical Field of the Invention

The present invention relates to video games and in particular the present invention relates to wireless control of a video game system.

### Background of the Invention

10 With the advancements in video game systems, personalized operation is becoming more desirable. Original video games allowed any user to operate the game at different skill levels which were selected at the start of the game. Each user, however, was treated the same during operation of the game. It would be desirable to allow each user to have a personality which interacts with the game, such that video 15 game have the ability to “recognize” a user and adjust game operation accordingly.

Video game systems typically include one or more controllers for controlling the operation of a video game. These controllers are connected to a central processing unit through a communication bus cable. The video game user, therefore, is restricted in possible operating locations. That is, a user cannot play a game from a relatively remote 20 location.

Further, because the game controllers are attached to the central processing unit, a portable personalized controller cannot be provided. Any user who operates a game using the same controller is treated the same by the video game.

For the reasons stated above, and for other reasons stated below which will 25 become apparent to those skilled in the art upon reading and understanding the present specification, there is a need in the art for a video game system having a portable controller which allows user to operate a video game from a remote location. Further, a video game system is need which has portable personalized game controllers.

Summary of the Invention

The above mentioned problems with video game systems and other problems are addressed by the present invention and which will be understood by reading and studying the following specification. A video game system is described which includes

5 personalized wireless game controllers. The controller allows for the custom operation of an interactive video system based upon personal data transmitted from the controller.

In particular, one embodiment of the present invention describes a personalized portable video game controller comprising a wireless transmitter for transmitting user personalized information and video game control signals to a video game processor, 10 input controls for generating the control signals in response to movements by a user, a non-volatile memory for storing the user personalized information, and a receiver for receiving wireless transmissions from the video game processor. The received wireless transmissions including data to be stored in the non-volatile memory.

In another embodiment, a video game system is described which comprises a 15 processor unit for operating game software and displaying video images on a display screen. The processor includes a receiver for receiving wireless identification and control signal transmissions. The system also comprises a personalized portable controller having a plurality of control switches for generating game control signals, a non-volatile memory for storing personalized identification information corresponding 20 to a user of the controller, and a transmitter for wireless transmitting of the identification and control signals to the processor unit.

In another embodiment, a method of operating an interactive video system is described. The method comprises the steps of activating a processing unit, transmitting personalized information from a controller using wireless transmissions, storing the 25 personalized information in a memory of the processing unit, transmitting updated personalized information from the processing unit to the controller using wireless transmissions, and storing the updated personalized information in a memory of the controller.

Brief Description of the Drawings

Figure 1 is a prior art video game system;  
Figure 2 is a video game system of the present invention;  
Figures 3a and 3b are a more detailed illustrations of some of the components of  
5 the system of Figure 2; and  
Figure 4 is a detailed illustration of one embodiment of a wireless video game controller.

Detailed Description of the Invention

10 In the following detailed description of the preferred embodiments, reference is made to the accompanying drawings which form a part hereof, and in which is shown by way of illustration specific preferred embodiments in which the inventions may be practiced. These embodiments are described in sufficient detail to enable those skilled in the art to practice the invention, and it is to be understood that other embodiments  
15 may be utilized and that logical, mechanical and electrical changes may be made without departing from the spirit and scope of the present inventions. The following detailed description is, therefore, not to be taken in a limiting sense, and the scope of the present inventions is defined only by the appended claims.

Referring to Figure 1 a typical video game system is described. The system  
20 includes a central processing unit 100 which is connected to a video monitor 102, or television. The central processing unit is adapted to receive a video game cartridge which includes software to operate the central processing unit. A game controller 104 provides control signals to the central processing unit via control wires 106, or communication bus. The controller can include a number of input switches 108 for  
25 providing signals to operate a video game. A variety of controllers are known to those skilled in the art, but all controllers require wires and are not personalized. It should be noted that the term video game, as used herein, refers to interactive video systems displaying images for amusement or education. Video game, therefore, should not be interpreted as limited to amusement systems.

Figure 2 illustrates a video game system 120 which includes a central processing unit 122 which is connected to a video screen 124, monitor, or television. The central processing unit is adapted to receive a video game cartridge which includes software to operate the central processing unit. The software can equally be supplied on any storage medium, such as magnetic diskette or compact disk, or the like. A wireless game controller 126 provides control signals to the central processing unit. The controller can include a number of inputs 128, or switches for providing signals to operate a video game. Again, a controller of the present invention can include any known input device including electrical switches sensitive to human movements.

A more detailed description of the features of the components of the video game system are described as follows. The central processing unit includes at least one receiver circuit (RX)130 for receiving signals from the wireless controller 126, see Figures 3a and 3b. In the preferred embodiment, the receiver 130 is adapted to receive signals provided in a predetermined frequency range. The controller 126 includes a transmitter circuit 132 designed to transmit control signals within this frequency range. The wireless controller, therefore, provides a game user the freedom to operate a video game from a greater distance than prior video game systems. That is, video games can be played on large video screens without the requirement of operating the games from close proximity without requiring long controller cables. Each controller includes a unique transmitter, thus, the processor may require multiple receivers 130 for simultaneous operation from multiple controllers.

The transmitter provided in the controller can be infrared, or a low voltage frequency modulated transmitter. It will be appreciated by those skilled in the art that any low voltage transmitter is contemplated for use in the controller. Because the controller is wireless, a user can remove the controller from the location of the video game central processor. Thus, the controller is easily transported. In the preferred embodiment, the controller includes a non-volatile memory device 134 such as, but not limited to a static random access memory (SRAM), EEPROM, or Flash EPROM. The memory is used to store data, via control 136, corresponding to personal information

regarding the user of the controller. Such personal information can include, but is not limited to, a user name, age, previous video game scores and statistics, and a current skill level for a video game. Additional information can be stored which is dependant upon the type of video games operated in the system. It will be appreciated that a

5 controller of the present invention provides an advantage in allowing each child in a household to have a personalized controller. By including the age of a user, it will be appreciated that amusement games designed for a specific age group is not operated by an inappropriate user. Therefore, the controller provides a minimum level of supervision. Further, educational video "games" can be adjusted to the age of the user.

10 The central processing unit 122 can also contain a memory device 136 which stores data corresponding to the controllers. As such, another embodiment is contemplated. One embodiment transmits an identification code from the wireless controller 126 to the central processing unit 122 during operation. The CPU then analyzes the identification code using control 138 and retrieves data stored in the CPU

15 memory 136 which corresponds to the identification code. The CPU can, therefore, retrieve personalized information relating to the user of the identified controller. For example, each child in a household can have a personalized controller which identifies the user and their game preferences and performance history. As such, the game system uses one direction communication.

20 In another embodiment, the wireless controller stores the detailed personalized data in its memory 134 and transmits this data to the CPU. The CPU then stores this data in its memory 136 for use during the operation of a game. The controller, therefore, is the location for permanent storage of personalized user data. This embodiment requires that the CPU transmit updated information to the controller via

25 transmitter 140 for updating the data stored in the controller memory. This updating is preferably performed during the operation of the game. This embodiment allows the controller to be used with multiple CPUs. For example, a child can transport their personal controller to another location (a friend's home) and use the controller on a different host CPU. In this embodiment, each controller 126 contains a receiver 142 for

receiving wireless communications from a transmitter located in the processing unit. In this embodiment, the memory 136 located in the processor 122, therefore, can be volatile or non-volatile because the personalized data does not have to be stored beyond the operation of the game. Multiple transmitters 140 may be required to transmit to 5 multiple controllers operating over different frequencies.

Several different methods of transmitting controller information from the wireless controller to the CPU are contemplated herein. In one embodiment, a multiple bit identification code is transmitted from the controller with each control signal output transmission. For example, in an eight-bit transmission from a controller, the first two- 10 bits can designate the controller identification, see Table 1.

CODE		SWITCH CODE					
1	0	0	0	0	1	0	1

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**TABLE 1**

The data transmission illustrated in Table 1 uses two bits to transmit a controller ID code (CODE) and six bits to transmit a control switch code (SWITCH CODE). It will be appreciated by those skilled in the art, that other data formats can be implemented 20 without departing from the present invention. In this embodiment, the CPU receives the data transmission and decodes the CODE to identify the transmitting controller. Data stored in the CPU memory can then be retrieved and used by the CPU during game operation.

If the controller is used to store detailed information about the user, an initial 25 data transmission is performed by the controller to “down load” the data from the controller memory 134 to the CPU. The CPU then stores this data in memory 136 for use during game operations. This data is periodically updated by the CPU and transmitted to the controller during “quiet” periods in the game when the user is not operating the controller, such as between game levels. A final memory update can be

performed upon completion of a particular game. Information stored in either the CPU or the controller can be updated via the CPU and selections presented on the video screen. For example, to enter a user name the CPU can present the alphabet on the screen and allow the user to select the letters of their name. Likewise, other personal information can be selected. As such, the CPU includes, or is capable of operating, software or firmware for the purpose of selecting user information.

Referring to Figure 4, one exemplary embodiment of a wireless controller 126 is described. The controller includes a housing 150 which is designed to be hand held. A variety of input/control switches 152 are provided to allow an operator to respond and control an interactive video game. The number and style of input control switches is not particularly relevant to the present invention. The controller is preferably battery operated and has a receptacle for receiving a battery pack 154. The battery pack can be a rechargeable battery which can be recharged either separately, or while located within the controller. The controller includes circuitry described above for one or two directional communication of control signals and personal controller data with the CPU. The wireless controller can also include a battery saver circuit 156 which turns internal circuitry off, such as the transmitter, when a predetermined time elapses between activation of any of the control switches. This circuitry reduces power consumption, thereby, extending time between battery replacement or recharge.

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### Conclusion

A video game system has been described which includes a wireless game controller which stores information about the user of the controller. The controller includes a memory for storing the information. The information is then communicated through wireless transmissions to a processor operating the video game. The information can include, for example, the user's name, skill level, preferred characters, handicaps, limitations, and/or historical game scores. The game controllers can include a wireless receiver for receiving communications from the game processor to update information stored in the controller. Several different communication operations and

protocols have been described, including storing a user identification code in the controller with corresponding detailed information stored in the game processor, or storing detailed information in the hand held controller and down loading the information to the game processor.

5        Although specific embodiments have been illustrated and described herein, it  
will be appreciated by those of ordinary skill in the art that any arrangement which is  
calculated to achieve the same purpose may be substituted for the specific embodiment  
shown. This application is intended to cover any adaptations or variations of the present  
invention. Therefore, it is manifestly intended that this invention be limited only by the  
10      claims and the equivalents thereof.

What is claimed is:

1. A video game system comprising:
  - a processor unit for executing game instructions and displaying video images on a display screen, the processor includes a receiver for receiving wireless identification and control signal transmissions; and
  - 5 a personalized portable controller comprising:
    - a plurality of control switches for generating game control signals;
    - a non-volatile memory for storing personalized identification information corresponding to a user of the controller; and
  - 10 a transmitter for wireless transmitting of the personalized identification and game control signals to the processor unit.
2. The video game system of claim 1 wherein the processor unit further comprises a memory for storing user information corresponding to a plurality of possible users.
- 15 3. The video game system of claim 2 wherein the user information stored in the memory of the processor unit is retrieved for use by the processor unit in response to the identification signal transmitted by the personalized portable controller.
- 20 4. The video game system of claim 3 wherein the identification signal is transmitted from the personalized portable controller with a transmission of each control signal.
- 25 5. The video game system of claim 2 wherein the user information stored in the memory of the processor unit is down loaded from the personalized portable controller prior to the operation of a video game.

6. The video game system of claim 1 further comprising:  
a wireless transmitter located in the processor unit for transmitting  
updated information to the personalized portable controller; and  
a receiver located in the personalized portable controller for receiving the  
updated information for storage in the non-volatile memory of the personalized  
portable controller.

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7. The video game system of claim 1 wherein the personalized portable controller  
includes a removable rechargeable battery pack.

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8. The video game system of claim 1 wherein the personalized portable controller  
includes power saver circuitry for reducing the power consumption of the controller  
when the controller is not in use.

15 9. A personalized portable video game controller comprising:  
a wireless transmitter for transmitting user personalized information and  
video game control signals to a video game processor;  
a plurality of input controls for generating the control signals in response  
to movements by a user;

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a non-volatile memory for storing the user personalized information; and  
a receiver for receiving wireless transmissions from the video game  
processor, the received wireless transmissions including data to be stored in the  
non-volatile memory.

25 10. The personalized portable video game controller of claim 9 wherein at least a  
portion of the user personalized information is transmitted to the video game processor  
with each control signal transmission.

11. The personalized portable video game controller of claim 9 wherein the user personalized information is selected from the group comprising user name, video game skill level, video game operating preferences, previous video game scores, or user age.

5 12. The personalized portable video game controller of claim 9 wherein the user personalized information is updated during video game operation via wireless transmissions from the video game processor.

10 13. The personalized portable video game controller of claim 9 wherein the user personalized information is transmitted from the controller to the game processor prior to interactive operation of a video game.

14. The personalized portable video game controller of claim 9 further comprising a removable rechargeable battery pack.

15 15. The personalized portable video game controller of claim 14 wherein the personalized portable controller includes power saver circuitry for reducing the power consumption of the controller when the controller is not in use.

20 16. A method of operating an interactive video system, the method comprising the steps of:

- activating a processing unit;
- transmitting personalized information from a controller using wireless transmissions;

25       storing the personalized information in a memory of the processing unit;

- transmitting updated personalized information from the processing unit to the controller using wireless transmissions; and

          storing the updated personalized information in a memory of the controller.

17. The method of claim 16 wherein the personalized information is transmitted from the controller prior to interactive operation of a video game.

18. The method of claim 16 wherein the updated personalized information is transmitted during interactive operation of a video game.

5

19. The method of claim 16 wherein the personalized information comprises a user name, user age, and historical interactive data.

10 20. The method of claim 16 wherein the personalized information comprises a user age, further comprising the step of prohibiting operation of a video game based upon the user age.

**Abstract of the Disclosure**

A video game system is described which includes a wireless game controller which stores information about the user of the controller. The controller includes a memory for storing the information. The information is communicated through wireless transmissions to a processor which can operate a video game. The personalized information can include, for example, the user's name, skill level, preferred characters, handicaps, limitations, and/or historical game scores. The game controllers can include a wireless receiver for receiving communications from the processor to update information stored in the controller. Several different communication operations and protocols are described, including storing a user identification code in the controller with corresponding detailed information stored in the processor, or storing detailed information in the hand held controller and down loading the information to the processor.

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Printed Name Russell Slifer

Signature Russell Slifer

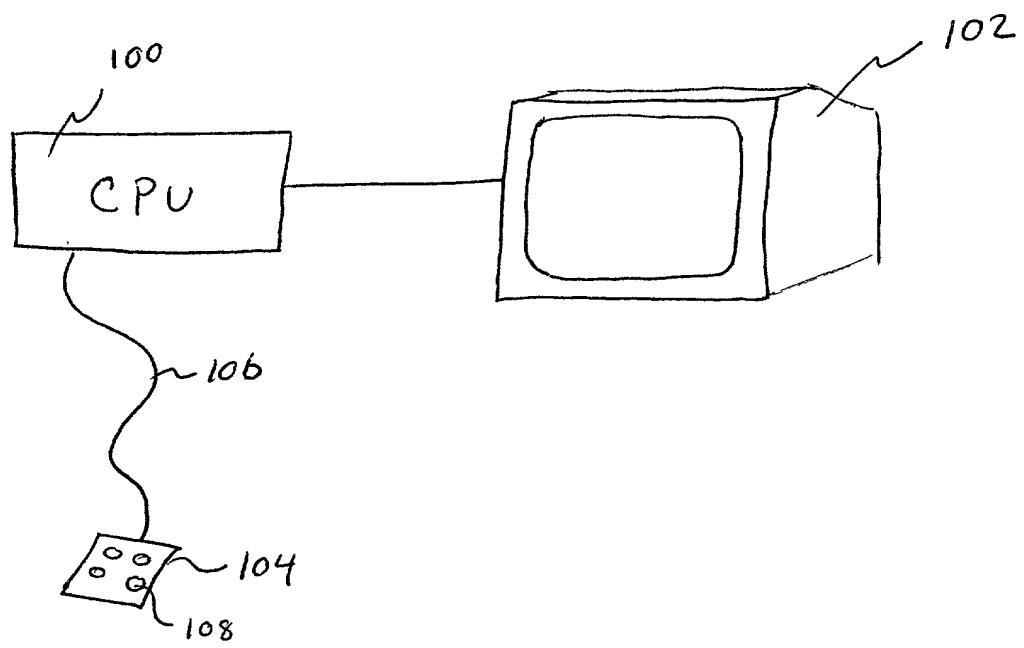
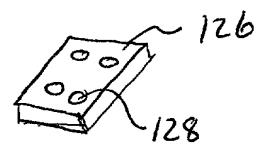
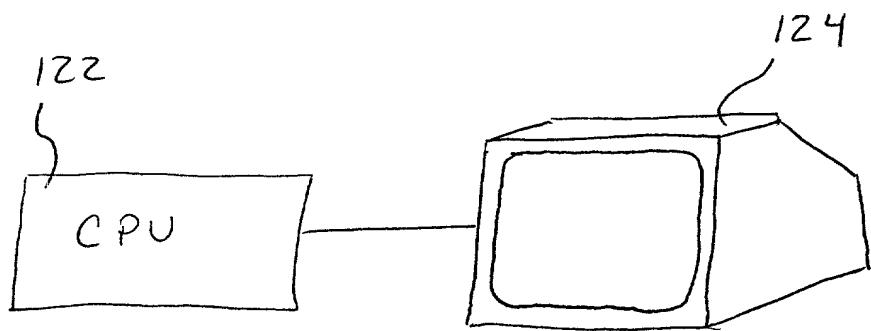


Figure 1  
Prior Art



120

Figure 2

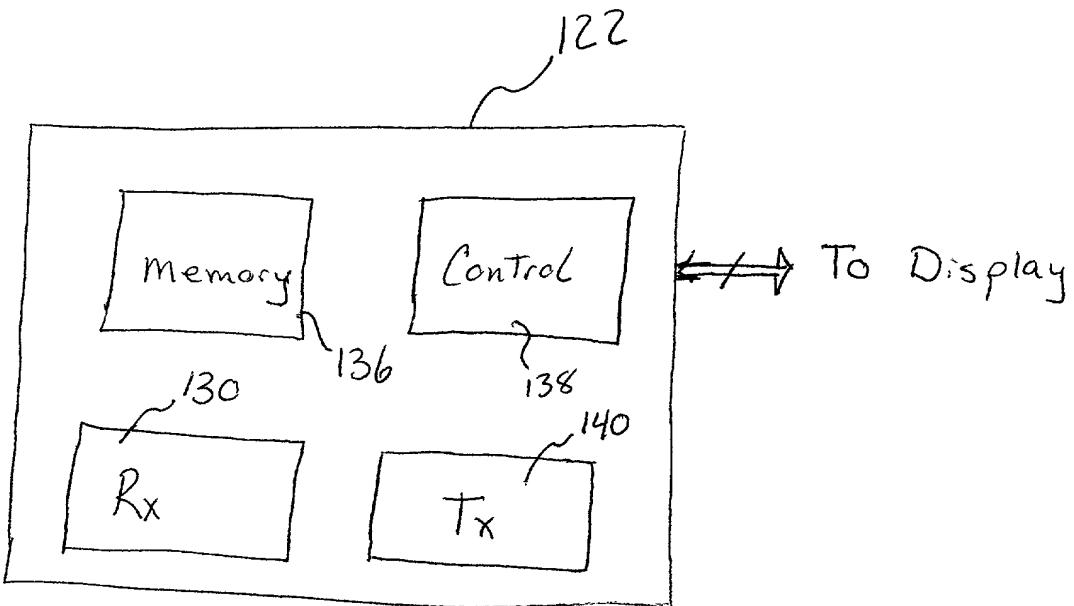


Figure 3a

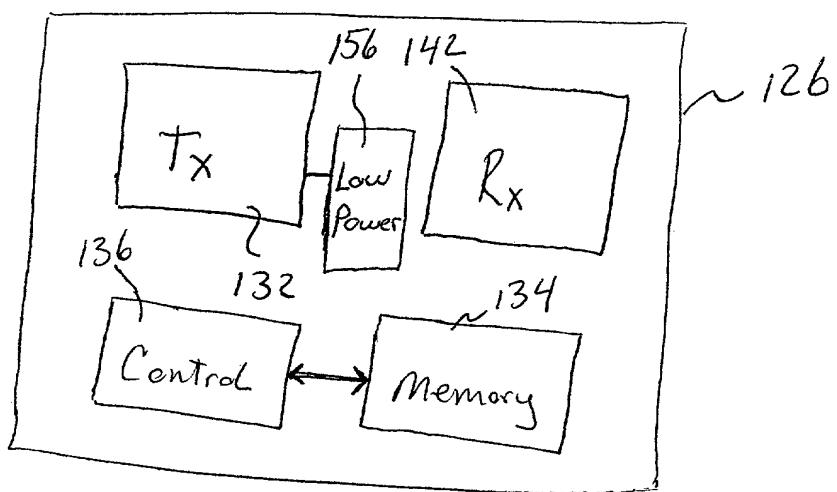


Figure 3b

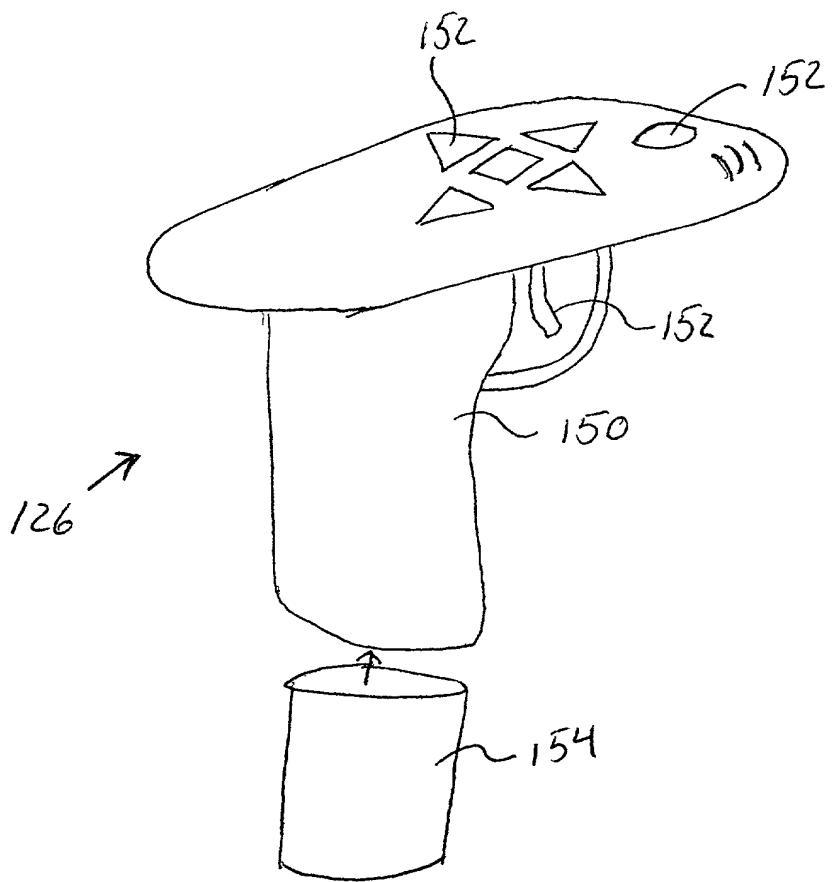


Figure 4

# United States Patent Application

## COMBINED DECLARATION AND POWER OF ATTORNEY

As a below named inventor I hereby declare that: my residence, post office address and citizenship are as stated below next to my name; that

I verily believe I am the original, first and joint inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled: PERSONALIZED WIRELESS VIDEO GAME SYSTEM.

The specification of which was filed on even date here with as application serial no. \_\_\_\_\_.

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the patentability of this application in accordance with Title 37, Code of Federal Regulations, § 1.56 (see page 3 attached hereto).

I hereby claim foreign priority benefits under Title 35, United States Code, §119/365 of any foreign application(s) for patent of inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on the basis of which priority is claimed:

**No such applications have been filed.**

I hereby claim the benefit under 35 U.S.C. § 119(e) of any United States provisional application(s) listed below.

**No such applications have been filed.**

I hereby claim the benefit under Title 35, United States Code, § 120/365 of any United States and PCT international application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, § 1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application.

**No such applications have been filed.**

As a registered patent attorney, I hereby appoint myself to prosecute this application and to transact all business in the Patent and Trademark Office connected herewith.

Slifer, Russell D.      Reg.      No. 39,838

Please direct all correspondence in this case to Russell Slifer at the address indicated below:

5324 Drew Ave. S., Minneapolis, MN 55410  
Telephone No. (612)373-6965

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full Name of inventor : **Russell Dale Slifer**

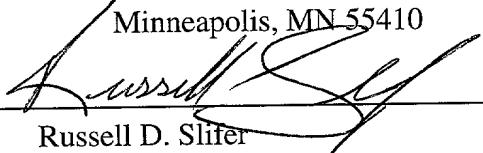
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Minneapolis, MN 55410

Residence: **Minneapolis, MN**

Signature:



Russell D. Slifer

Date:

11/14/97

§ 1.56 Duty to disclose information material to patentability.

(a) A patent by its very nature is affected with a public interest. The public interest is best served, and the most effective patent examination occurs when, at the time an application is being examined, the Office is aware of and evaluates the teachings of all information material to patentability. Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section. The duty to disclose information exists with respect to each pending claim until the claim is cancelled or withdrawn from consideration, or the application becomes abandoned. Information material to the patentability of a claim that is cancelled or withdrawn from consideration need not be submitted if the information is not material to the patentability of any claim remaining under consideration in the application. There is no duty to submit information which is not material to the patentability of any existing claim. The duty to disclose all information known to be material to patentability is deemed to be satisfied if all information known to be material to patentability of any claim issued in a patent was cited by the Office or submitted to the Office in the manner prescribed by §§ 1.97(b)-(d) and 1.98. However, no patent will be granted on an application in connection with which fraud on the Office was practiced or attempted or the duty of disclosure was violated through bad faith or intentional misconduct. The Office encourages applicants to carefully examine:

- (1) prior art cited in search reports of a foreign patent office in a counterpart application, and
- (2) the closest information over which individuals associated with the filing or prosecution of a patent application believe any pending claim patentably defines, to make sure that any material information contained therein is disclosed to the Office.

(b) Under this section, information is material to patentability when it is not cumulative to information already of record or being made of record in the application, and

- (1) It establishes, by itself or in combination with other information, a prima facie case of unpatentability of a claim; or
- (2) It refutes, or is inconsistent with, a position the applicant takes in:
  - (i) Opposing an argument of unpatentability relied on by the Office, or
  - (ii) Asserting an argument of patentability.

A prima facie case of unpatentability is established when the information compels a conclusion that a claim is unpatentable under the preponderance of evidence, burden-of-proof standard, giving each term in the claim its broadest reasonable construction consistent with the specification, and before any consideration is given to evidence which may be submitted in an attempt to establish a contrary conclusion of patentability.

(c) Individuals associated with the filing or prosecution of a patent application within the meaning of this section are:

- (1) Each inventor named in the application;
- (2) Each attorney or agent who prepares or prosecutes the application; and
- (3) Every other person who is substantively involved in the preparation or prosecution of the application and who is associated with the inventor, with the assignee or with anyone to whom there is an obligation to assign the application.

(d) Individuals other than the attorney, agent or inventor may comply with this section by disclosing information to the attorney, agent, or inventor.